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## Carbon Capture and Storage (CCS) and its impacts on the reduction of air pollution and global warming

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Global climate change may be the most challenging environmental problem the world will face in near future. To decrease the noticeable growth of greenhouse gases and its related consequences, a broad set of CO<sub>2</sub>-limiting policies will be needed. Carbon capture and storage is one of the most important technologies around the world that is considered as one of the options for reducing atmospheric emissions of CO<sub>2</sub> from human activities. CO<sub>2</sub> is emitted principally from the burning of fossil fuels, both in large combustion units such as those used for electric power generation and in smaller, distributed sources such as automobile engines. CO<sub>2</sub> emissions also result from some industrial and resource extraction processes, and from the burning of forests during land clearance. CCS would most likely be applied to large point sources of CO<sub>2</sub>, such as power plants or large industrial processes. Carbon capture and storage is a process including the separation, transport and long-term isolation of carbon dioxide from the atmosphere. At large point sources such as hydrogen production plants, carbon dioxide is generated as one of the products of fossil fuels combustion. Through the use of rather complicated capture technologies, CO<sub>2</sub> can be separated from other byproducts, transported and captured by injection into storage reservoirs such as depleted oil and gas fields, deep saline aquifers or the deep ocean. The long term storage of CO<sub>2</sub> is considered as one of the main technologies that is needed for facing with the challenges of climate changes.

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